



ISTRUZIONI D'USO

ITALIANO

OWNER'S MANUAL

ENGLISH

MODE D'EMPLOI

FRANÇAIS

GEBRAUCHSANLEITUNG

DEUTSCH

HANDLEIDING

NEDERLANDS

MODO DE EMPLEO

ESPAÑOL

GEM

100-90

COD. 27882

SPECIFICATIONS DSK 100 / 90

ITALIANO

PERSONAL KEYBOARD	DSK 90 - 61 KEYS (c-c)	DSK 100 - 61 KEYS (c-c)
DINAMIC - KEYBOARD	Received only by midi	DSK 100
SWP MENÙ	Piano - Vibes - Marimba - Harpsi - E. Piano 1 - E. Piano 2 - Clavi - Chimes - Acoustic guitar - Jazz guitar - Steel guitar - Banjo - Koto - SWP 1 - SWP 2 - SWP 3 - Brass - Horns - Clarinet - Flute - Reed - Vocal - Accordion - Harmonica - Jazz organ - Theatre organ - Pipe organ - Strings 1 - Strings 2 - SWP 4 - SWP 5 - SWP 6	
PROGRAMMABLE CUSTOM VOICE	Custom: edit - scroll (inc. dec.)	Menù 01-32 / Custom 33-64
POLY MODE SELECT	Select: Single/Dual	Select: A/B/Copy
MIXER EFFECTS	Rhythm / Balance A-B / Acc. / Bass Poly A - Sus. - REV Poly B - Sus. - REV	Rhythm / Balance A-B / Acc. / Bass Poly A - Sus. - REV Poly B - Sus. - REV Acc - Sus. - REV Bass - Sus. - REV
COMPUTER	Harmony - Split - Transposer (Inc. Dec.)	
PERFORMANCE	Save - Recall	
SEQUENCER - DEMO	Play - Stop - Record - Demo Song - Bass - Acc. - Poly A/B - Panel	
PCM RHYTHM	Bossa - Samba - 8 Beat - Funk - Swing - Dixie - Waltz - March 1 - Latin 1 Latin 2 - 16 Beat - Disco - Blues - Tango March 2 - Polka - Var. 1 / Var. 2 / Var. 3 Custom	Bossa - Samba - 8 Beat - Funk - Swing - Dixie - Waltz - March 1 - Latin 1 Latin 2 - 16 Beat - Disco - Blues - Tango March 2 - Polka - Var. 1 / Var. 2 / Var. 3 Custom
RHYTHM - CONTROLS	Start / Stop - Sync / Stop - End / Intro - Fill 1 / Fill 2 / Fill 3	
PROGRAMMABLE CUSTOM RHYTHM	Copy - Edit - Manual - 16 Programmable Rhythms	
AUTOMAGIC	Bass - Accomp. - One Finger - Arrange - O.F.A.	
TEMPO	Tempo Display (Inc. Dec.)	
MANUAL CONTROLS	Pitch / Modulation received only by MIDI	Pitch / Modulation
OTHERS CONTROLS	Power switch - Master volume - Headphones	
MIDI	Load - Save - External Clock - Mode	
REAR PANEL	Pitch - Midi (Out / In) - Sustain - Volume Control - Aux In - Out (Left / Right) - D.C. 12 V.	
AMPLIFICATION	5+5 W. R.M.S. Speakers Full Range	
DIMENSIONS	mm. (W) 1.000 x (H) 110 x (D) 320 Inches (W) 39,3" x (H) 4,3" x (D) 12,5"	
NET WEIGHT	Kg. 6,5 (lbs. 14)	Kg. 7 (lbs. 15)
OPTIONALS	Volume Pedal - Sustain Pedal - Legs - Wooden Stand with Bench - Dust Cover - AC Adaptor	

N.B. - The DSK 90 is also available with the Arabic Scale.

OWNER'S MANUAL DSK 100/90 GEM

INTRODUCTION

We are first of all happy that you've bought the GEM DSK 100/90, one of the first of its kind. It has been developed by GEM, using the prestigious SWP (Sampled Wave Processing) technology and their long experience in the building of musical instruments.

The main characteristics are listed here below.

- DYNAMIC KEYBOARD (DSK 100).
- 32 PRESET SOUNDS.
- 32 CUSTOM SOUNDS (PROGRAMMABLE) GIVING MORE THAN ONE MILLION POSSIBLE SOUNDS.
- 64 PERFORMANCE MEMORY.
- PITCH BEND AND MODULATION WHEEL (DSK 100).
- ALPHANUMERIC DISPLAY.
- FULL DIGITAL AND MIXER EFFECTS.
- 64 RHYTHMS OF WHICH 16 CAN BE PROGRAMMED.
- MORE THAN 140 DIFFERENT ARRANGEMENTS (FOR MAJOR, MINOR AND SEVENTH CHORDS).
- 140 FILLS - 48 ENDS.
- 24 INSTRUMENTS FOR RHYTHM UNIT - (DYNAMIC FOR DSK 100).
- 4 INDEPENDENT SECTIONS (BASS - ACC. - POLY A - POLY B) WITH ACCESS TO ALL SOUNDS (MENU).
- OPERATIVE MODE: SINGLE/DUAL/COPY/SPLIT.
- SEQUENCER (MIDI) 4 TRACKS, WITH 2000 EVENTS WHICH CAN BE MEMORIZED (DYNAMIC FOR DSK 100).
- FULLY MIDI COMPATIBLE WITH FUNCTIONS FROM MASTER KEYBOARD.
- STEREOPHONIC AMPLIFICATION.

N.B. In order to obtain the most from your instrument we advise you to read carefully through the Owner's Manual.

WARNING

Throughout this manual you will find some references to both the DSK 100 and DSK 90, these indicate the respective functions of each model should they differ from each other.

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MIDI

WARNING

PITCH

PANNELLO ANTERIORE

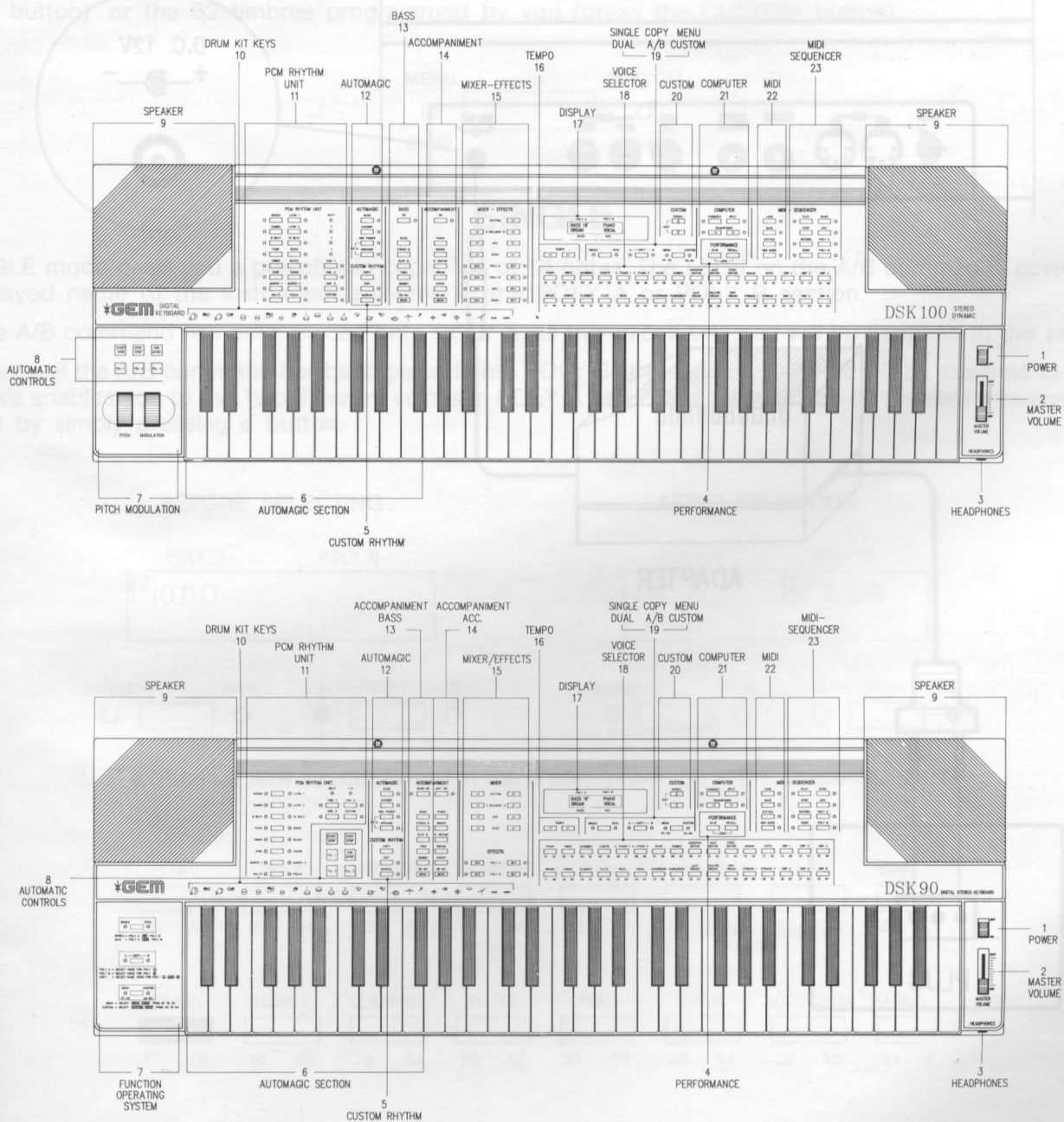
ON/OFF

HEADPHONES

AN OVERVIEW OF THE DSK 100/90

- 1 - ON / OFF SWITCH.
- 2 - MASTER VOLUME (REGULATES THE OVERALL VOLUME OF THE DSK).
- 3 - HEADPHONES SOCKET.
- 4 - PERFORMANCE.
- 5 - PROGRAMMABLE RHYTHM SECTION AND RELATIVE COMMANDS (COPY - EDIT - MANUAL)
- 6 - KEYS OF THE AUTOMAGIC SECTION.
- 7 - PITCH AND MODULATION MANUAL COMMANDS (DSK 100). OPERATIVE MODE CHART FOR THE INSTRUMENTAL VOICES.
- 8 - AUTOMAGIC COMMANDS REGARDING THE RHYTHM SECTION: START/STOP - SYNC/STOP - END/INTRO - FILL 1/2/3.
- 9 - SPEAKERS.
- 10 - BUTTONS FOR PROGRAMMING PERCUSSION IN THE EDIT FUNCTION.
- 11 - RHYTHM SECTION AND RELATIVE COMMANDS.
- 12 - AUTOMAGIC ARRANGEMENTS: BASS - ACCOMP - ONE FINGER - ARRANGE - O.F.A.
- 13 - BASS SECTION
- 14 - ACCOMPANIMENT SECTION.
- 15 - VOLUME/EFFECTS SECTION
- 16 - TEMPO CONTROL.
- 17 - ALPHANUMERIC DISPLAY.
- 18 - INSTRUMENTAL VOICE SECTION.
- 19 - RELATIVE COMMANDS REGARDING: SINGLE/DUAL - COPY A/B - MENU/CUSTOM.
- 20 - PROGRAMMABLE INSTRUMENTAL VOICE SECTION AND RELATIVE COMMANDS (SCROLL/EDIT)
- 21 - COMPUTER: HARMONY - SPLIT - TRANSPOSER
- 22 - MIDI CONTROL: LOAD - SAVE - EXT. CLK. - MODE
- 23 - 4 TRACK MIDI SEQUENCER - AUTOMATIC DEMONSTRATION.

N.B. In the DSK 90, the EFFECTS section is made up of the following commands: SUS. and REV in the POLY A and POLY B sections.



HOW TO INSERT THE BATTERIES

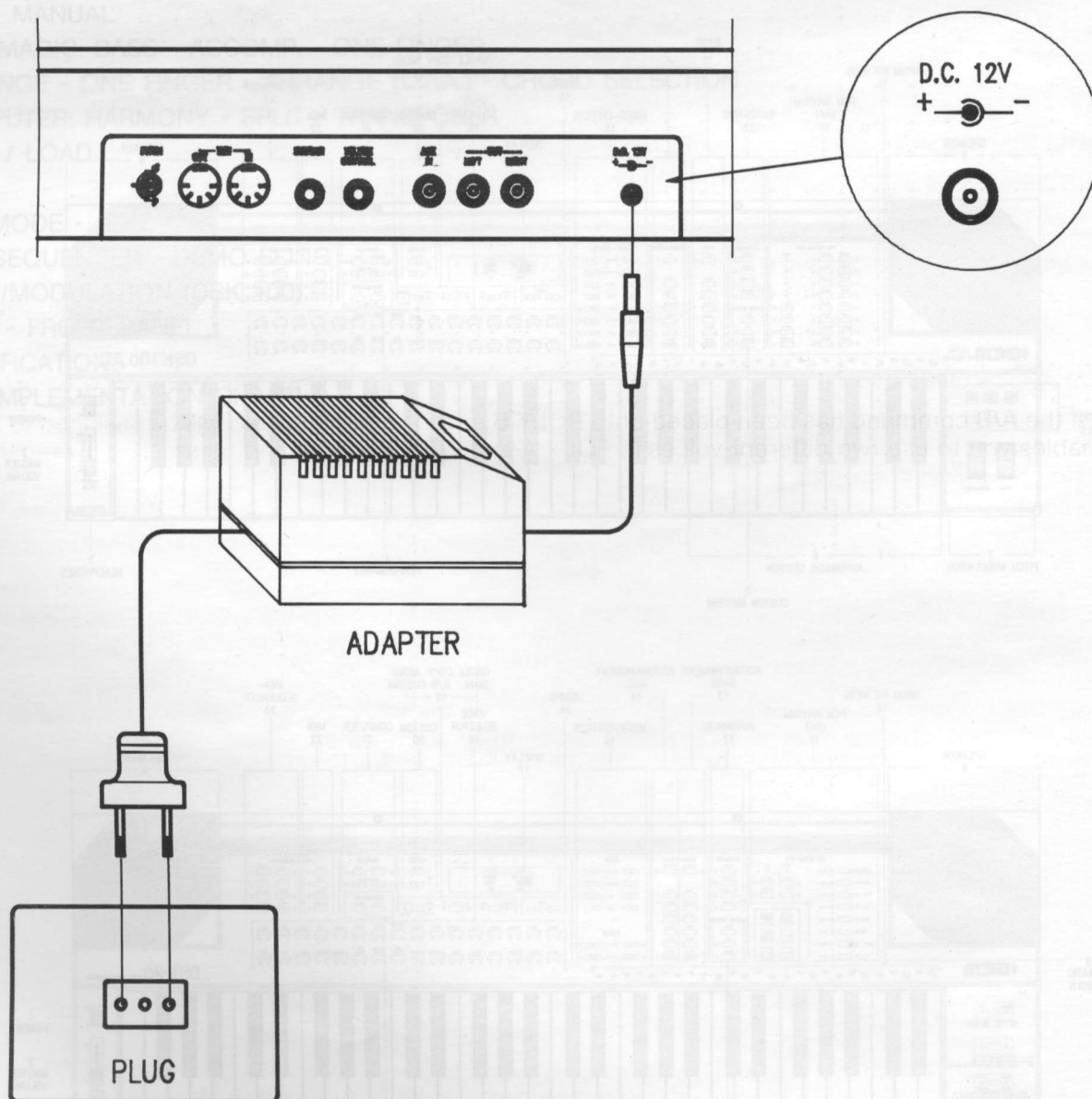
Take off the battery cover which is under the instrument and insert 8, 1,5 "D" R - 20 ALCALINE batteries. Make sure that they are inserted correctly by following the designs inside. Replace the cover so that it is firmly closed.

ADAPTOR

An A C 12 V. adaptor is available as an optional accessory.

CONNECTING UP THE ADAPTOR

- 1) Insert the adaptor JACK into the appropriate 12 V. input to be found on the back panel of the instrument.
- 2) Plug into a 240 V current.



BASIC OPERATIONS

HOW TO SWITCH ON - Place the power switch to ON. A short introduction regarding the instrument you have bought will appear on the DISPLAY after which there will be an automatic selection of the first voice "PIANO", ready to be played.

* GEM DSK 100 *
DIGITAL KEYBOARD

Piano

VOICE SELECTION AND COMBINATIONS

The DSK 100 and 90 are equipped with 32 voices plus another 32 custom voice (programmable by the player). These can be played one at a time (SINGLE mode) or they can be played in DUAL mode which means you can listen to two voices at the same time. To decide which of the two modes to activate, select the SINGLE / DUAL command.

N.B. Using MENU/CUSTOM functions you can select the 32 timbres programmed by GEM (press the MENU button) or the 32 timbres programmed by you (press the CUSTOM button).

MENU CUSTOM
○ ○
01-32 33-64

SINGLE

SINGLE mode gives you a polyphonic capability of 16 notes. The LEDS on the A/B commands govern the displayed name of the instrument selected in the POLY A or POLY B section.

If the A/B command has been placed onto POLY A, all the voices selected will be assigned to this section.

Likewise, if the A/B command has been placed onto POLY B all the voices selected will be assigned to POLY B. This enables you to use two different voices in POLY A and POLY B which can be recalled whenever you want by simply pressing a button.

BEFORE SELECTING

AFTER SELECTING

POLY A POLY B
Piano

POLY A POLY B
Brass

SINGLE DUAL A — COPY — B
○ ○ ● ○

SINGLE DUAL A — COPY — B
○ ○ ○ ●

① To obtain a new sound (Brass) in the B part, press the A/B COMMAND (B)

PIANO	VIBES	MARIMBA	HARPSI	E. PIANO 1	E. PIANO 2	CLAVI	CHIM
01 33	02 34	03 35	04 36	05 37	06 38	07 39	08

②

BRASS	HORNS	CLARINET	FLUTE	REED	VOCAL	ACCORDION	HARMO
17 49	18 50	19 51	20 52	21 53	22 54	23 55	24

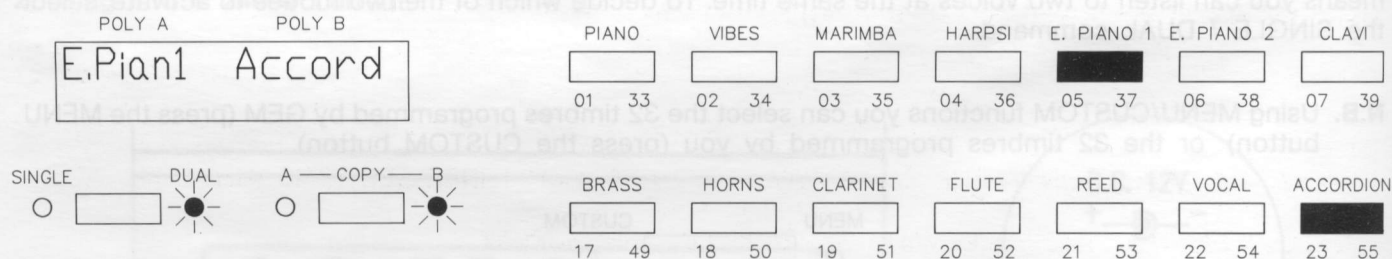
DUAL

Two distinctive voices from the POLY A and POLY B sections can be played together using DUAL mode. In DUAL mode the maximum number of notes you can play are eight.

The DISPLAY will visualize the names of the voices selected in the POLY A and POLY B sections. If the A/B command has been activated on POLY A, all voices will be assigned to that section. If the A/B command has been activated on POLY B, all the voices will be assigned to POLY B.

- 1) Press the DUAL command.
- 2) Select the voice you want in the respective POLY A / POLY B sections.

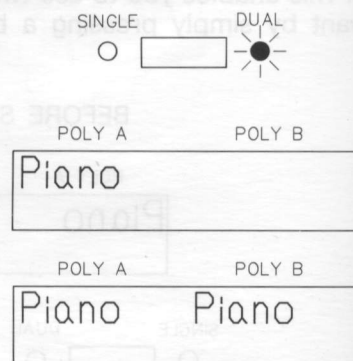
For example: POLY A (E. PIANO 1), POLY B (ACCORDION).



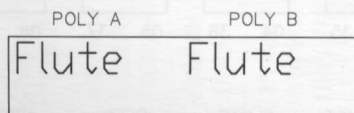
N.B. When the instrument is switched on the command is set on A.

COPY

- 1) Select DUAL mode
- 2) Select the voice you want on POLY A
- 3) Select the same voice on POLY B to activate the COPY function (indicated by the LEDS on).



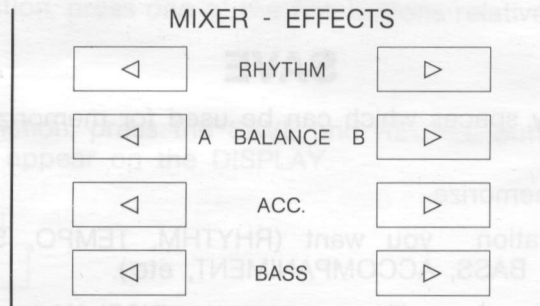
When the COPY section is on, (both LEDS are alight) any of the voices selected will be automatically assigned to POLY A and to POLY B as shown on the DISPLAY.



N.B. To turn off the COPY function, just press the SINGLE button or the A/B selector.

MIXER - EFFECTS

VOLUME CONTROL - Apart from a manual volume control (MASTER VOLUME), there is also an individual regulator for each of the following sections RHYTHM A - BALANCE B - ACC. - BASS, by pressing the (INC. - DEC) buttons relative to the MIXER section. Each operation carried out on the keys will be briefly visualized on the DISPLAY.



USE THE BALANCE A/B BUTTONS (INC. DEC.) TO SET THE VOLUME YOU WANT.

Vol_04 Vol_04

REPEAT THE OPERATION IN THE SAME WAY FOR THE OTHER THREE SECTIONS (RHYTHM - ACC. - BASS).

PRESSING RHYTHM THE FOLLOWING APPEARS ON THE DISPLAY.

RHYTHM TEMPO 120
VOLUME 11

PRESSING ACC. THE FOLLOWING APPEARS ON THE DISPLAY.

Piano VOL_ 11

PRESSING BASS THE FOLLOWING APPEARS ON THE DISPLAY.

Piano
VOL_ 11

SUSTAIN

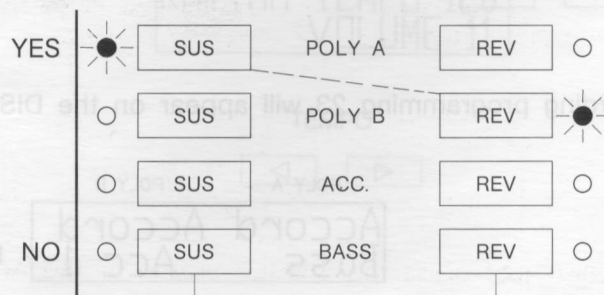
The SUSTAIN functions changes the length of the sound decay. The sound fades away gradually in the same way as if the loud pedal of an acoustic piano has been released. Thanks to the EFFECTS section you can obtain a SUSTAIN effect in the following sections:

POLY A - POLY B - ACC. - BASS with two different kinds of SUSTAIN called SUS and REV.

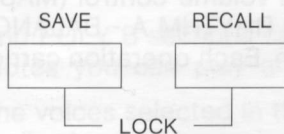
Press whichever button (SUS or REV) you want in the respective sections.

A LED will light up to show that the function is activated.

N.B. The SUS effect automatically excludes the REV effect and vice versa, only when working in the same section.



PERFORMANCE



SAVE

The DSK 100/90 has 32 memory spaces which can be used for memorizing the same number of panel combinations.

Use the "SAVE" command to memorize.

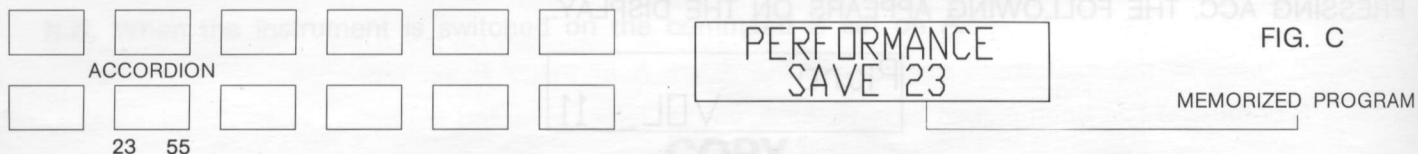
- 1) Set up the panel configuration you want (RHYTHM, TEMPO, SOUNDS, EFFECTS, VOLUME, TRANSPOSER, AUTOMAGIC, BASS, ACCOMPANIMENT, etc.).
- 2) Press SAVE. The following message will appear on the DISPLAY together with a flashing cursor.



- 3) Select memory 01 to 32 or 33 to 64 using the command as shown in Fig. B.



- 4) Assign the number you want, using the sound selector which will appear on the flashing cursor.



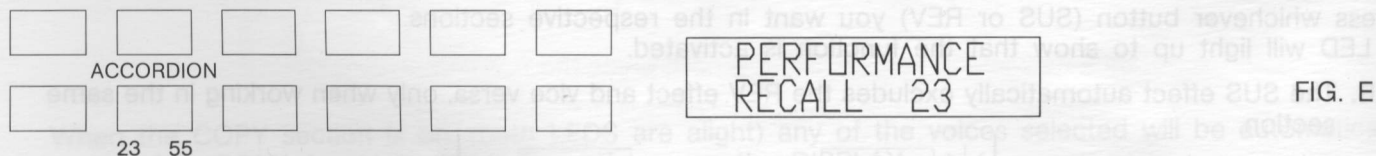
RECALL

Using the "RECALL" command you can recall any program done by you.

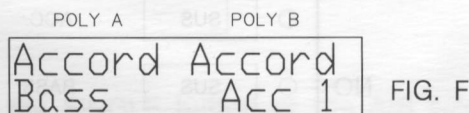
- 1) Press "RECALL". The following message will appear on the DISPLAY together with a flashing cursor.



- 2) Assign the number of the program you want to recall using the sound selector.



- 3) The following message regarding programming 23 will appear on the DISPLAY.



LOCK

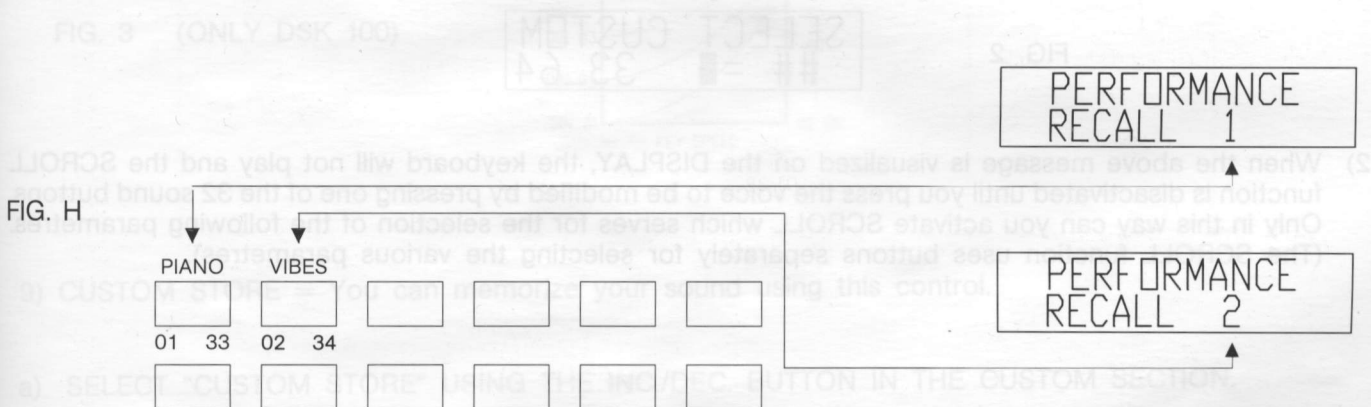
The "LOCK" command activates "PERFORMANCE RECALL" (previously described), in a permanent mode. This allows for a speedier recall of the programmed PERFORMANCES, by keeping the PERFORMANCE RECALL function continually active every time a number from PERFORMANCE is selected.

To deactivate the "LOCK" function, press one of the two buttons relative to the PERFORMANCE (SAVE / RECALL) sections.

- 1) To activate the "LOCK" function, press the SAVE and RECALL buttons down together. The following message will appear on the DISPLAY.



- 2) Using the relative MENU / CUSTOM timbre buttons, assign the PERFORMANCE you want. The selected number will change (on the cursor) every time you assign another PERFORMANCE.

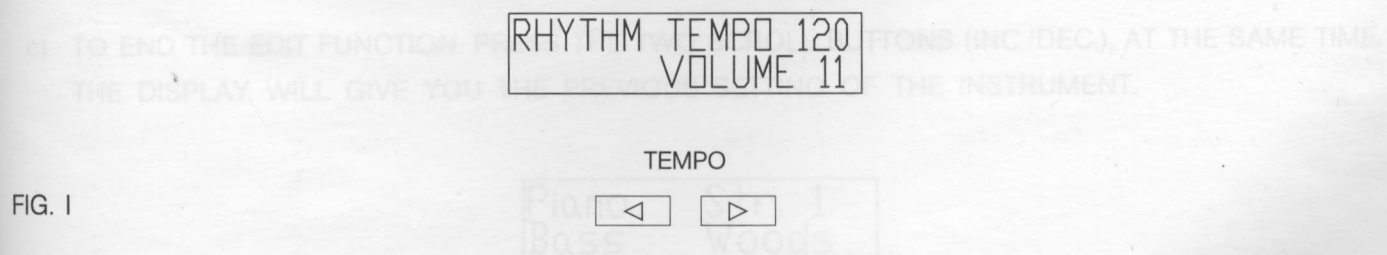


TEMPO

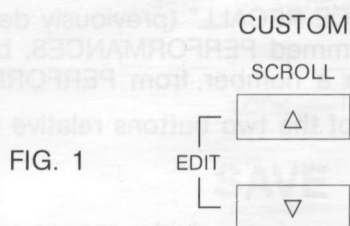
If you press the TEMPO button which is under the DISPLAY, , the speed will increase, while if you press the other button  the value of the TEMPO will decrease.

Pressing both these buttons at the same time the TEMPO will be that of the GEM DSK which is ($\bullet = 120$).

The TEMPO function is briefly visualized on the DISPLAY, every time you press one of the  /  TEMPO buttons.



CUSTOM (EDIT - SCROLL)



The "CUSTOM" section allows you to create new sounds. The DSK 100/90 can hold as many as 32 custom sounds in its memory. These sounds can be assigned to any of the four BASS - ACC. - POLY A - POLY B sections. To create a new sound, carefully follow these instructions.

- 1) To programme, activate EDIT by pressing the two SCROLL - INC. DEC. buttons at the same time. The following message will appear on the DISPLAY.

FIG. 2

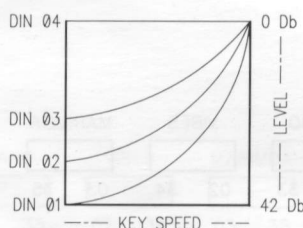
SELECT CUSTOM
= 33_64

- 2) When the above message is visualized on the DISPLAY, the keyboard will not play and the SCROLL function is disactivated until you press the voice to be modified by pressing one of the 32 sound buttons. Only in this way can you activate SCROLL which serves for the selection of the following parametres. (The SCROLL function uses buttons separately for selecting the various parametres).

AN OVERVIEW OF THE CONTROLS (DSK 100/90)

- 1) WAVEFORM SELECT = This control selects the 20 waveforms in "A" and the waveforms in "B", necessary for creating new instrumental voices.
- 2) ENVELOPE SELECT = This determines the way the amplitude changes over the duration of the sound.
- 3) MIX WAVE = This governs the ratio of mixing between Wave A and Wave B in static or dynamic mode.
- 4) PITCH ENVELOPE = This generates 16 different frequency modulations during the "attack" stage of a sound.
- 5) L.F.O. SELECT = This gives 16 different Vibrating effects.
- 6) DCO 2 SELECT = This determines how much DETUNE of the 2nd. Oscillator.
- 7) OCTAVE SELECT = This chooses either 8 or 16 feet.
- 8) DYNAMIC LEVEL = This covers 4 dynamic levels (01/01/03/04 - Fig. 3).

FIG. 3 (ONLY DSK 100)



- 9) CUSTOM STORE = You can memorize your sound using this control.

- a) SELECT "CUSTOM STORE" USING THE INC./DEC. BUTTON IN THE CUSTOM SECTION.

THE FOLLOWING MESSAGE WILL APPEAR ON THE DISPLAY TOGETHER WITH A FLASHING CURSOR.

CUSTOM	STORE
## = 36	33_64

- b) ASSIGN THE NEW VOICE TO A NUMBER IN THE NUMBERED INSTRUMENTAL VOICE SELECTOR.

CUSTOM	STORE
## = 41	33_64

- c) TO END THE EDIT FUNCTION. PRESS THE TWO SCROLL BUTTONS (INC./DEC.), AT THE SAME TIME. THE DISPLAY WILL GIVE YOU THE PREVIOUS SETTING OF THE INSTRUMENT.

Piano	Str. 1
Bass	Woods

BASS SECTION

Pressing the ON switch on the panel you activate the BASS section which is made up of 5 different preset Bases. Using the MENU button you also get a selection of all those voices regarding MENU (from 05 to 32) and CUSTOM (from 33 to 64) of the instrumental voice section.

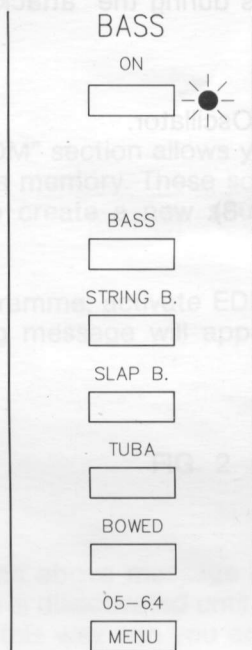


FIG. 1

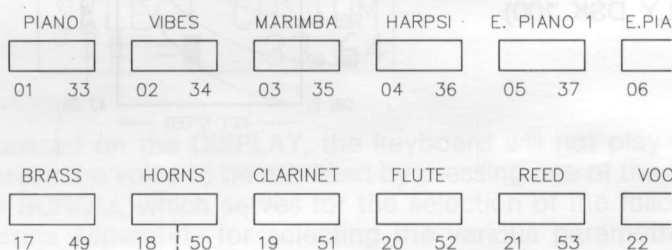
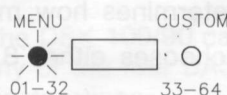


FIG. 2

To obtain another voice from the BASS section apart from the 5 presets (see Fig. 2), follow these instructions carefully:

- 1) Decide whether to use a MENU voice or a CUSTOM voice for the BASS section (Fig. 1).
- 2) Press the MENU button together with the voice button you want.

Your selection will appear on the DISPLAY every time you change instrument in the respective BASS - ACC. - POLY A - POLY B sections.

N.B. The BASS section can also be played using the SPLIT function. In this way you get a bass from the lower part of the keyboard and the possibility of using both POLY A and POLY B on the upper part of the keyboard. Without SPLIT, the BASS section will be joined to the polyphonic one (A and B) for the whole length of the keyboard and the lowest note will play.

ACCOMPANIMENT SECTION

Pressing the ON switch on the panel, you activate the ACCOMPANIMENT section made up of 5 different preset accompaniments. Using the MENU button you also have a selection of those voices in the MENU (from 05 to 32) and CUSTOM (from 33 to 64) of the instrumental voice section.

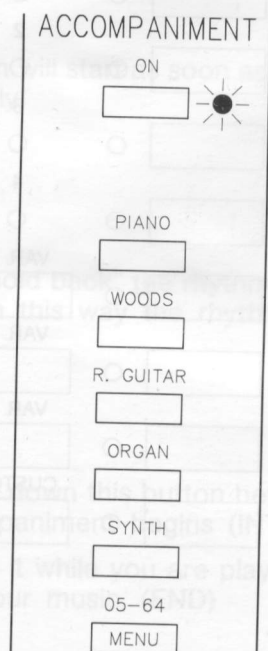
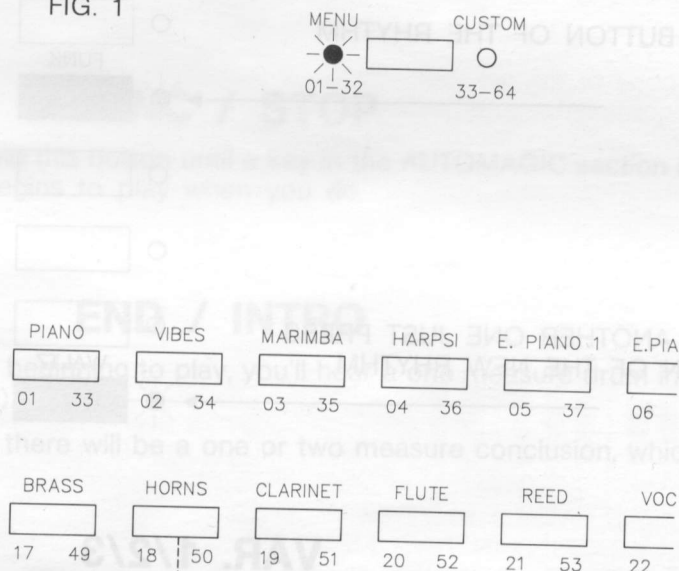


FIG. 2

FIG. 1



To obtain another voice from the ACCOMPANIMENT section apart from the 5 presets (see Fig. 2), follow these instructions carefully:

- 1) Decide whether to use a MENU or a CUSTOM voice from the ACCOMPANIMENT section. (Fig. 1).
- 2) Press the MENU button together with the button of the voice you want.

Your selections will appear on the DISPLAY every time you change instruments in the BASS - ACC. - POLY A - POLY B sections.

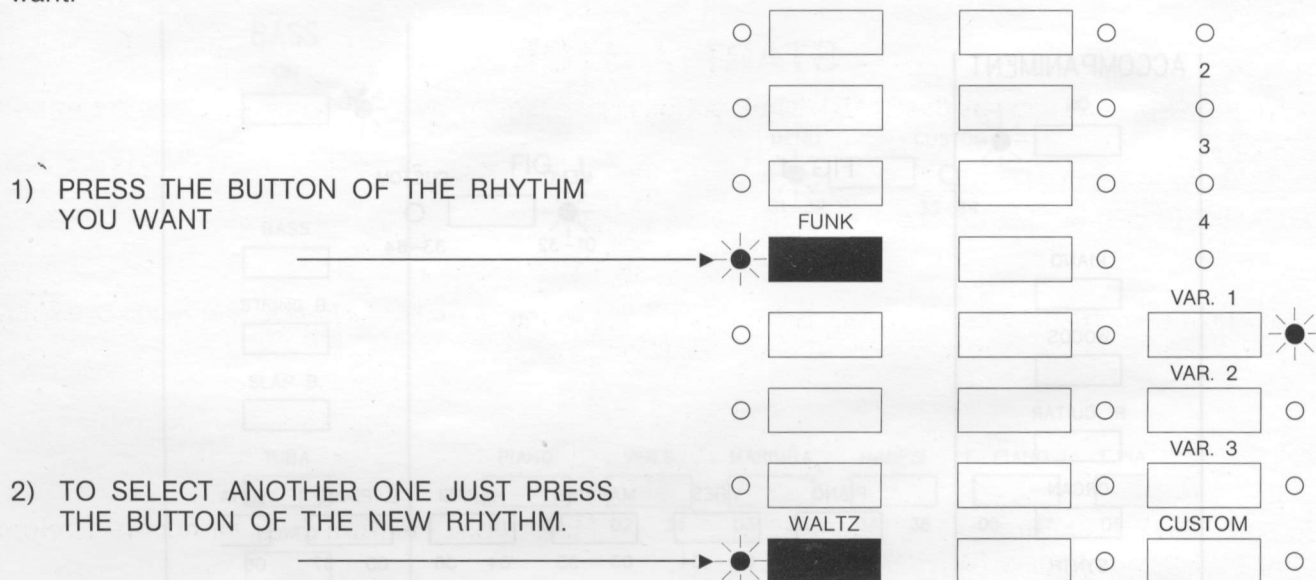
N.B. Pressing the ON button in the ACCOMPANIMENT section you automatically turn on the SPLIT command which will divide the keyboard into two parts.

(The SPLIT point can be programmed, see page 20).

PCM RHYTHM UNIT

The GEM DSK 100/90 feature an array of digitally sampled drum sounds that are truly realistic. These 24 drum sounds (dynamic - DSK 100) are combined to produce 48 different rhythm patterns plus 16 custom rhythms which can be programmed by the player. These rhythms range from a hard driving SWING to an electrifying DISCO.

The selection of the following rhythms can be done by simply pressing down the button of the rhythm you want.



VAR. 1/2/3

Whenever necessary, each rhythm pattern can be varied 3 times using the VAR. 1/2/3 buttons.

CUSTOM

With CUSTOM you can immediately recall a new rhythm which you have programmed. (There are 16 possible programmes).

48 RHYTHMS

N.B. The 1/2/3 variations sometimes activate rhythms which are different from the original ones but still in the same style.

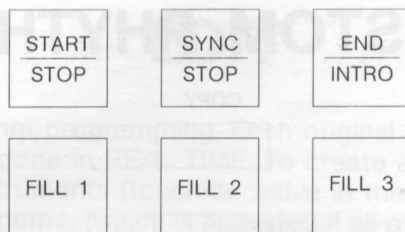
EXAMPLE: LATIN 1 + VAR. 1 = BEGUINE

LATIN 1 + VAR. 2 = CHA CHA CHA

LATIN 1 + VAR. 3 = SALSA

This brings the actual number of the rhythms to 64, i.e. 48 + 16 programmable rhythms.

RITMI	VAR. 1	VAR. 2	VAR. 3
BOSSA	= BOSSA 1	BOSSA 2	JAZZ BOSSA
LATIN 1	= BEGUINE	CHA CHA	SALSA
SAMBA	= SAMBA 1	SAMBA 2	SAMBA 3
LATIN 2	= SPANISH	JOROPO	POP LATIN
8 BEAT	= SOFT	BALLAD	ROCK
16 BEAT	= SOUL	R. & B.	FUNK 16
FUNK	= FUNK 1	FUNK 2	REGGAE
DISCO	= DISCO	BREAK D.	RAP
SWING	= TRIO	COMBO	BAND
BLUES	= BALLAD	BLUES	HARD ROCK
DIXIE	= TRIO	COMBO	BAND
TANGO	= TANGO 1	TANGO 2	TANGO 3
MARCH 1	= MILITARY	COUNTRY	BLUEGRASS
MARCH 2	= 6/8	MARCH 2	WESTERN
WALTZ	= WALTZ	WIENER W.	JAZZ W.
POLKA	= POLKA 1	POLKA 2	BAND



START / STOP

The rhythm will start as soon as the START/STOP button is pressed. Pushing it down again stops the rhythm immediately.

SYNC / STOP

You can "hold back" the rhythm using this button until a key in the AUTOMAGIC section of the keyboard is pressed. In this way the rhythm begins to play when you do.

END / INTRO

If you push down this button before beginning to play, you'll hear a one measure drum introduction before the accompaniment begins (INTRO).

By pushing it while you are playing, there will be a one or two measure conclusion, which gives a perfect finish to your music. (END)

FILL 1 / FILL 2 / FILL 3

As its name suggests, these buttons insert a 'FILL' or 'BREAK' (drum solo) into the rhythm pattern. There are three different possibilities for each rhythm which are one measure long.



CUSTOM RHYTHM

COPY

EDIT

MANUAL

COPY

The COPY function is activated in the EDIT mode.

You get an exact copy of the selected rhythm if you press this button, and it enables you to modify the original rhythm according to your personal tastes.

1) PRESS EDIT

EDIT

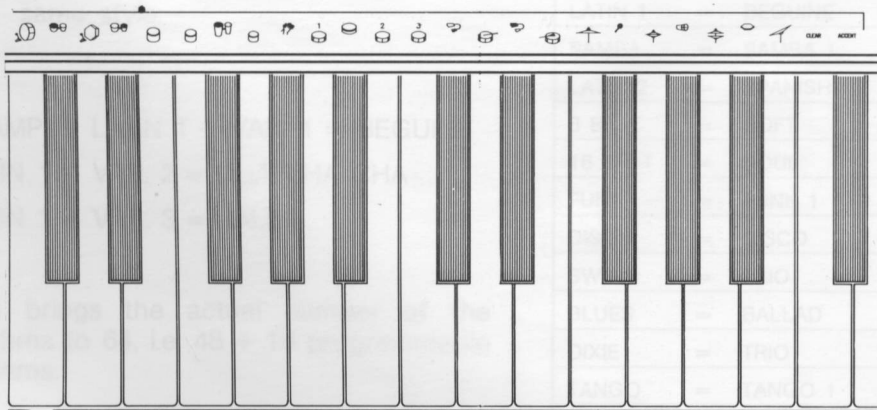
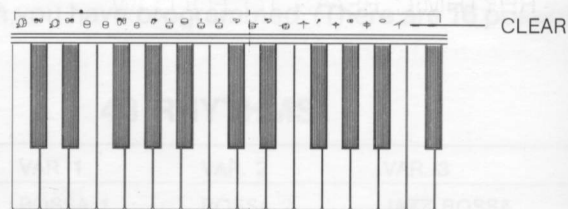
2) SELECT THE RHYTHM YOU WANT TO COPY

LATIN 1

3) PRESS COPY. THE LATIN 1 RHYTHM WILL BE AUTOMATICALLY COPIED IN THAT MEMORY SPACE ALLOCATED TO LATIN 1

COPY

4) CLEAR OR ADD ANY INSTRUMENTS YOU WANT.
(TO PROGRAMME SEE THE PARAGRAPH ON EDIT).



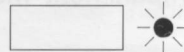
N.B. To carry out CLEAR, press the CLEAR key together with the instruments you want to cancel out.

EDIT

The EDIT function activates the rhythm programming. Each original rhythm has a reserved memory space allocated to programming which is done in REAL TIME. To create a new custom rhythm, the player must use the 24 Dynamic percussion instruments (touch sensitive in the DSK 100), being careful to follow the rhythm beats indicated on the metronome, (which is activated if all other instruments have been cancelled), and by the 4 beat lights under the DISPLAY.

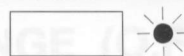
- 1) PRESS EDIT TO ACTIVATE IT.

EDIT

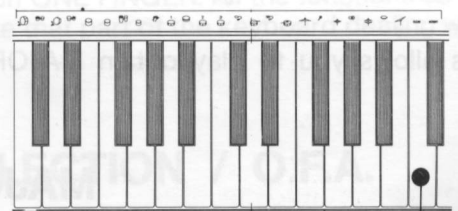


- 2) SELECT THE RHYTHM TO WANT TO PROGRAMME.

DISCO

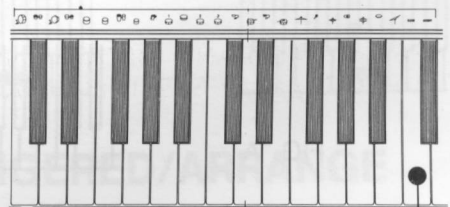


- 3) CANCEL OUT THE DRUM INSTRUMENTS YOU DO NOT WANT BY PRESSING CLEAR AND THE KEYS WITH THE INSTRUMENT ILLUSTRATED OVER THE PANEL AT THE SAME TIME.



CLEAR

- 4) IF YOU CANCEL OUT ALL THE INSTRUMENTS A METRONOME WILL AUTOMATICALLY INDICATE THE RHYTHMIC BEATS TO FOLLOW.



CLEAR

N.B. As soon as the EDIT function is activated, the rhythm will begin to play and the relative CUSTOM and HAND CLAP LEDS will light up.

MANUAL

This activates the "MANUAL DRUM" function. If you want to play the 24 percussion instruments manually and with the rhythm base in function too, press the MANUAL MANUAL ● button.

The DSK 100 percussion instruments are dynamic and touch sensitive.

AUTOMAGIC

BASS (FINGERED)

This turns on the automatic BASS which is obtained by playing the notes of the keyboard according to traditional music theory. Playing only one note you get a more complete bass according to the chords (recognized) that are played.

ACCOMP. (FINGERED)

This turns on the rhythm accompaniment made up of those notes played on the keyboard.

BASS/ACC.

Pushing down the BASS/ACC. buttons at the same time produces the above functions together and which is usually called FINGER function.

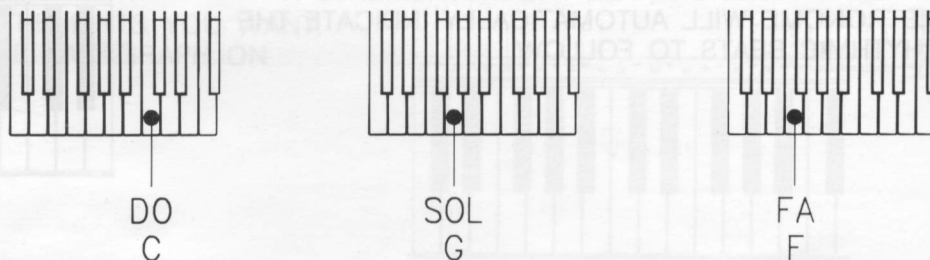
ONE FINGER

This allows you to play obtain MAJOR; MINOR; SEVENTH chords in an easy way.

MAJOR CHORDS (Fig. A)

Push down one of the keys in the bass section of the keyboard. You'll hear the corresponding chord with bass and rhythm accompaniment. For example, if you push down the C key you'll get the chord of C Major together with the bass and rhythm.

FIG. A



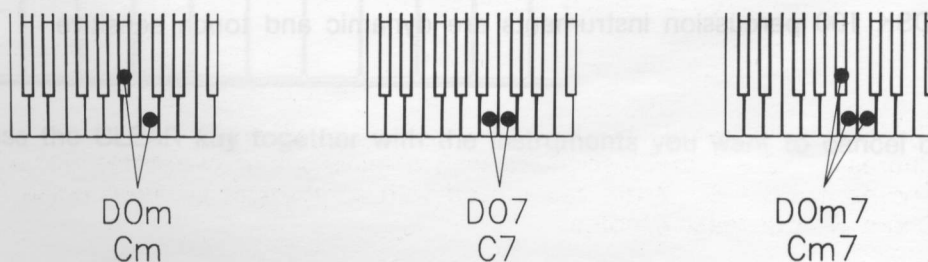
MINOR. SEVENTH. MINOR SEVENTH CHORDS (Fig. B)

To get a C MINOR chord push down the C key together with the black key immediately to the left (B flat).

To get a C SEVENTH chord push down the C key together with the white key immediately to the left (B).

To get a C MINOR SEVENTH chord push down the C key together with the black and the white keys immediately to the left (B flat + B).

FIG. B



ARRANGE

ARRANGE provides more complex accompaniments based on a recognized system of musical chords. What this means is that by playing one note you get the same function as in FINGERED; playing two or more notes, the traditional system of musical chords will be put into function. The recognized chords will be used as a background for a musical arrangement suitable to the rhythm and selected variations.

RECOGNIZED CHORDS: MAJOR: MINOR: SEVENTH: MAJOR SEVENTH: MINOR SEVENTH: AUGMENTED FIFTH DIMINISHED: MINOR SEVENTH DIMINISHED FIFTH.

The MAJOR, MINOR and SEVENTH chords can also be produced by playing two notes; the others by playing three or four notes.

N.B. The MAJOR, MINOR and SEVENTH chords produce three completely different arrangements, composed to combine with each other according to musical theory and harmony.

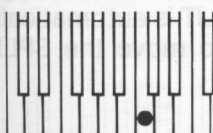
If by chance an unrecognized chord is played, the ARRANGE function automatically changes to FINGERED (with no visual signal by the LEDS). Putting these two functions together allows you to play any kind of music and brings the total number of available arrangements to 144.

ONE FINGER ARRANGE (O.F.A.)

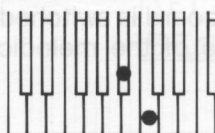
Pushing down ONE FINGER and ARRANGE produces the ARRANGE function (with complex arrangements), using the simple system of chord selection illustrated in the paragraph ONE FINGER. All the functions so far described turn on the MEMORY function which allow you to memorize that part of the keyboard dealing with accompaniments.

ONE FINGER SYSTEM CHORD SELECTION / O.F.A.

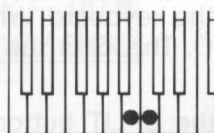
MAGGIORE
MAJOR



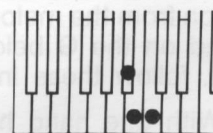
MINORE
MIN



SETTIMA
7th

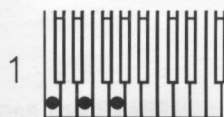


MINORE/SETTIMA
m 7th

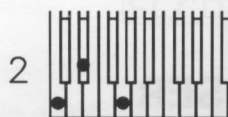


RECOGNIZED CHORD SYSTEM FINGERED/ARRANGE

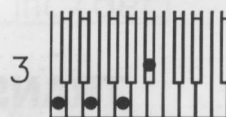
MAGGIORE
MAJOR



MINORE
MIN



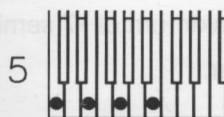
SETTIMA
7th



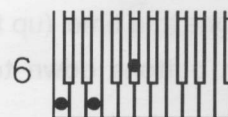
MINORE/SETTIMA
m 7th



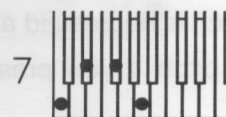
SETTIMA/MAGGIORE
MAJ 7



QUINTA/ECCEDENTE
5 #



DIMINUITA
DIM



MINORE/SETTIMA 5^b
m 7th/5^b

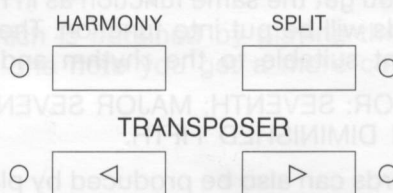


N.B.

- 1) The above illustrated chords are recognized in all ways.
- 2) Chords 1 - 2 - 3 are recognized with a minimum of two notes (including the root).
- 3) Chords 4 - 5 - 6 - 7 are recognized with a minimum of three notes (including the root).
- 4) Chord 8 = at least 4 notes.

COMPUTER

The buttons in this section have various, automatic functions.



HARMONY

When you press the Harmony button, the single notes of the melody will automatically play as full chords, based on the chord which is being played in the AUTOMAGIC section. HARMONY uses instrument voices from the Poly sections.

SPLIT

The SPLIT LED, is usually on to indicate that the Automagic section is on the extreme lower part of the keyboard. The LED goes out only when:

- A) Programmed with EDIT
- B) the BASS and ACC. sections are both deactivated.

The SPLIT button enables you to determine the actual point of SPLIT, which separates the Automagic section from the melodic one on the keyboard. When the keyboard is switched on, the SPLIT is automatically placed on the G below middle C. This G is the lowest note of the melodic section. To move the SPLIT point, follow these instructions:

- 1) With one hand hold down the SPLIT button.
- 2) With the other, press the note you have chosen as the lowest note in the melodic section.

This cannot be any lower than the top C of the lowest octave or higher than the lower C of the top octave.

TRANSPOSER

The two (INC./DEC.) buttons of the transposer allow you to control the pitch of the DSK 100/90 and to adapt it to the singer or to any other instrument.

Pressing the right hand selector marked with a small vertical triangle, the pitch is increased a semitone at a time; (up to a maximum of +5 semitones).

Using the left hand selector the pitch is decreased a semitone at a time, (up to a maximum of -7 semitones).

The keyboard returns to normal pitch if you press both buttons down together.

SAVE / LOAD

You can SAVE / LOAD the data of your instrument into a computer or a data filer via MIDI. DSK 100/90 data is divided into three parts: SEQUENCER; C. RHYTHM; C. VOICE PERFORMANCE. Using SAVE / LOAD you can save or load one of these parts or all three together called "ALL".

SAVE

To activate the SAVE function follow these instructions carefully:

- 1) Press the SAVE button, the following message will appear on the DISPLAY:

```
SAVE    ALL
save=Y or scroll
```

- 2) Using the SCROLL (INC. / DEC.) button, select one of the four parts of the memory (ALL; SEQUENCER; C. RHYTHM; C. VOICE PERFORMANCE). The selected name will appear on the DISPLAY.

```
SAVE Sequencer
save=Y or scroll
```

- 3) Press the SAVE button again, the following message will appear on the DISPLAY.

```
SEL. NUMBER= 00
scroll = inc/dec
```

- 4) Using the SCROLL (INC. / DEC.) assign the number you want (00 to 99). E.G. number 31.
(The chosen number represents the data to which it has been assigned).

```
SEL. NUMBER= 31
scroll = inc/dec
```

- 5) Press the SAVE button once again; "Wait.....Saving" will appear on the DISPLAY and the name of the part of that memory which you are saving with its relative number.

```
Wait... saving
Sequencer = 31
```

N.B. As soon as the SAVE operation is finished, the last selection will be indicated on the DISPLAY before entering into the SAVE function.

LOAD

To activate the LOAD function follow these instructions carefully:

- 1) Press the LOAD button, the following message will appear on the DISPLAY.

Wait for loading
Stop to Exit

- 2) Set up the computer or data filer from which you are loading so that it can transmit the data to the DSK 100/90. As soon as loading begins, "Wait.....Loading" will appear on the DISPLAY and the name of that part of the memory which you are loading with its relative memory.

Wait... loading
Sequencer = 31

N.B. During Loading, any errors made by the player will be visualized on the DISPLAY in this way:

ERROR !!!
Stop to Exit

To deactivate SAVE / LOAD or exit from an error, press the STOP button of the sequencer section.
"AVOID THIS OPERATION DURING THE SAVING OR LOADING OF DATA".

SEL. NUMBER = 31
scroll = inc\dec

TRANSPONER

MIDI

MODE

This corresponds to OMNI ON / OFF.

If it is ON, it activates the reception of all midi channels, if OFF, only those set channels as in the chart below.

EXT. CLK

☐ ☐

MIDI MODE

☐ ☐

MODE SELECT	SPLIT ON		SPLIT OFF	
	Transmit	Receive	Transmit	Receive
OFF (Omni OFF)	Ch. 1 = Poly A/B Ch. 2 = ACCOMP. Ch. 3 = BASS	Ch. 1 = Poly A/B Ch. 2 = ACCOMP. Ch. 3 = BASS	Ch. 1 = Poly A/B Ch. 3 = BASS	Ch. 1 = Poly A/B Ch. 3 = BASS
ON (Omni ON)	Ch. 1 Poly A/B Ch. 2 = ACCOMP. Ch. 3 = BASS	ALL CHANNELS	Ch. 1 Poly A/B Ch. 3 = BASS	ALL CHANNELS

EXT. CLK.

Pressing this key enables you to receive an external MIDI clock, which allows you to synchronize the DSK PCM Rhythm unit with other rhythm units, drums or sequencers.

Your DSK PCM Rhythm unit can receive START / STOP signals (which it can also send).

MIDI SEQUENCER

RECORD

In order to carry out a recording it is advisable first of all to CLEAR the Sequencer memory by pressing RECORD and then RECORD and PLAY together. To set up for recording on one of the 4 Sequencer tracks, press RECORD, (a metronome will begin to tick the rhythm) together with the section you want to record (BASS - ACC. - POLY A/B). The dynamics of the keyboard are included in every recording.

If you are carrying out the first recording, so the other three tracks are empty, the Sequencer will begin recording as soon as you press the first note (this is beat 1). If, however, you have already recorded other tracks, and you want to record another track from the 2nd or 4th. beat or after a "REST", the Sequencer will start as soon as you press any key on that part of the keyboard which is not being used for the actual recording. (PLAYBACK, this note will not be recorded).

If you want to record the AUTOMAGIC section as well, you must push the ACC. track, following the indications here below;

MIDI SEQUENCER

PLAY	BASS	
☐	☐	☐
STOP	ACC.	
☐	☐	☐
RECORD	POLY A/B	
☐	☐	☐
DEMO	PANEL	
☐	☐	☐

1) Push the RECORD button. Holding it down, press the PLAY button. You have now carried out a CLEAR of the memory as described above.

2) Press RECORD again.

3) Now press ACC. to begin the recording.

Using the AUTOMAGIC accompaniment, you can now record your music as if you were playing with two hands.

N.B. If you press PANEL you have a fourth track which can be used exclusively for memorizing in REAL TIME any eventual changes of the Master Panel. You can carry out changes in: SOUNDS, RHYTHM, VARIATION, FILL 1/2/3, EFFECTS, CUSTOM VOICE; CUSTOM RHYTHM and so on.

DEMO SONG

When you press the Demo button and you will get a full demonstration of what the GEM DSK can do. To interrupt the demonstration just press the button again. The DSK will return to RESET, the same as when it is turned on.

N.B. When MIDI information is sent to DSK 100/90, the LED relative to the "DEMO" function will flash indicating that the instrument is on "MIDI-RECEIVE".

PITCH / MODULATION

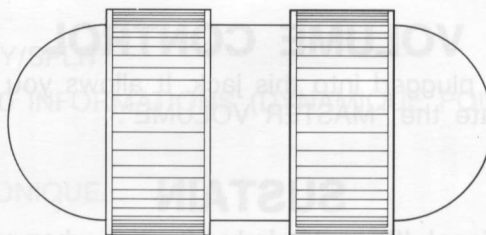
On the DSK 100 there are two different control knobs.

The one on the left marked PITCH is used exclusively for the PITCH BEND EFFECT. It allows you to deviate the sound either up or down. When the knob is released, the spring automatically places it again in the central position (normal intonation).



PITCH

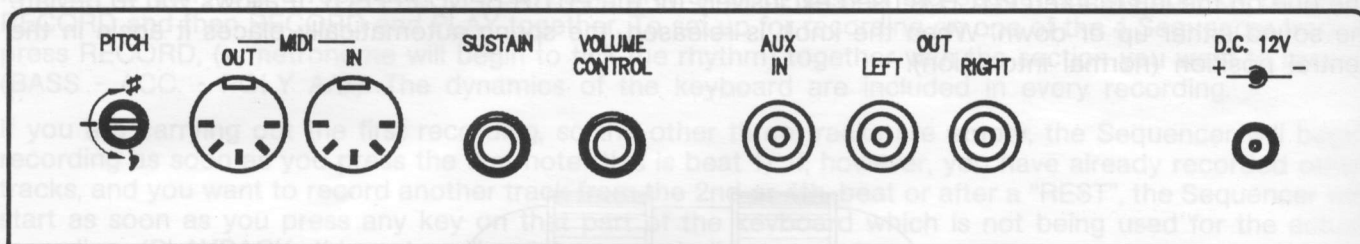
The other knob marked MODULATION is used to control the VIBRATO effect. This manual command is different from the PITCH BEND in that it does not automatically return to its primary position.



MODULATION

BACK PANEL

The back panel of your DSK provides several useful functions.



DC 12V

This jack allows you to connect the AC adaptor to provide power to the keyboard.

The alternative, for portable use, is to use eight "D" size 1.5 V batteries which fit into the compartment underneath the keyboard. (see page "Inserting the Batteries").

OUT

Connect your DSK to a home stereo or other external amplification for an even bigger sound. The DSK 100/90 has two separate, left and right outputs.

AUX IN

Connecting a stereo, a cassette player or another musical instrument to this jack allows you to hear sound through the internal amplification of the DSK.

VOLUME CONTROL

An optional Volume Pedal can be plugged into this jack. It allows you to control the expression of the keyboard without having to regulate the "MASTER VOLUME".

SUSTAIN

This Pedal is also an available optional. It's particularly effective when used with the polyphonic A and B sections.

MIDI

These ports allow you to connect your DSK to other midi compatible instruments.

MIDI OUT allows the DSK to control other instruments and MIDI IN allows it to be controlled by other instruments.

PITCH

This knob allows you to fine tune your DSK performances with recordings or other instruments.

FRONT PANEL

ON / OFF

This switch turns your instrument on and off.

HEADPHONES

A pair of stereo headphones plugged into this jack silences the speakers and allows you to play without disturbing or being disturbed by others.